



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/474,536	12/29/1999	QINGYU ZENG	24707A	2359

22889 7590 09/08/2005

OWENS CORNING
2790 COLUMBUS ROAD
GRANVILLE, OH 43023

EXAMINER

TORRES VELAZQUEZ, NORCA LIZ

ART UNIT	PAPER NUMBER
----------	--------------

1771

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

mc

Office Action Summary

Application No.

09/474,536

[Signature]
Applicant(s)

ZENG ET AL.

Examiner

Norca L. Torres-Velazquez

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11, 15-18 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11, 15-18 and 20-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 20, 2005 has been entered.

2. Applicant's arguments filed June 22, 2005 have been fully considered but they are not persuasive.

a. With regards to the rejection of claims 22 and 24 under 35 U.S.C. 112, first paragraph, as containing matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Applicants indicate that the Examiner has misinterpreted the holding in the cited *Ex parte Grasselli* decision. It is noted herein that the particular situation in *Ex parte Grasselli* relates to the concept of conducting a decomposition step at an elevated temperature generating nitric acid in the absence of a catalyst versus the present invention that discloses polymer fibers as preferred fibers for use as the primary fibers. It is the Examiner's position that the situation in *Ex parte Graselli* and the present application are not sufficiently similar. In the present invention the discloses polyethylene terephthalate fibers as preferred primary fibers but such disclosure does not exclude the use of polypropylene fibers as the polymer fibers for use as the primary fibers. Applicants indicate that polyethylene terephthalate

fibers are not polypropylene. While such assertion is correct, it is noted that the specification only discloses polyethylene terephthalate fibers as the preferred embodiment and does not teach a concept of exclusion for the use of polypropylene fibers in the invention. As previously noted by the Examiner, the term polymer fibers encompasses a vast list of materials and it is the Examiner's position that such teaching without a concept of exclusion for the use of polypropylene fibers is not sufficient to overcome the present new matter rejection. The negative limitation included in the present claims is considered new matter as there is no concept of exclusion that support the limitation "polymer fibers other than polypropylene".

b. Applicants further cited *In re Johnson* indicating that the insertion of the negation limitation is permissible. It is the Examiner's position that the situation *In re Johnson* and the present application are not sufficiently similar. *In re Johnson* the alternative elements are covalently bonded entities that are part of a molecular structure of a polymer and affect the properties of the polymer versus the present situation which relates to a broad class of materials included under the term "polymer" that can be used as the primary fibers of the present invention to provide a structural material. As stated above, it is noted that the specification only discloses polyethylene terephthalate fibers as the preferred embodiment and does not teach a concept of exclusion for the use of polypropylene fibers in the invention. As previously noted by the Examiner, the term polymer fibers encompasses a vast list of materials and it is the Examiner's position that such teaching without a concept of exclusion for the use of polypropylene fibers is not sufficient to overcome the present new matter rejection. The negative limitation included

in the present claims is considered new matter as there is no concept of exclusion that support the limitation “polymer fibers other than polypropylene”.

Applicants further argue that claims 22 and 24 provide “that the primary fibers are polymer fibers other than polypropylene”, a narrower subset and that the applicant is well within his rights to merely excise that portion of the present invention disclosed in the application wherein the primary fibers are made of polypropylene. It is the Examiner’s position that the term “polymer” encompasses a long list of materials with different properties and it is not possible, based on the present disclosure, to find that by reciting “polymer fibers” one of ordinary skill in the art would be suggested to exclude polypropylene from the vast list of materials that the term includes in order to provide a “narrower subset”.

c. Applicants further argue that the limitation of an acoustical insulation product wherein the blanket of polymer fibers includes primary fibers “substantially free of melt-blown fibers” is not met by the prior art of record. It is noted herein that such limitation is regarded as new matter since there is no concept of exclusion taught in the specification or the original claims to support such limitation.

d. With regards to the rejections over the prior art of claims 21, 15 and 23, it is noted that the term “substantially free of melt-blown fibers” limitation is interpreted by the Examiner as being primary fibers that can contain melt-blown fibers since the term does not preclude having melt-blown fibers. It is noted that the SWAN et al. reference teaches forming the web preferably from a mixture of polypropylene melt-blown microfibers and crimped bulking fibers in which the meltblown form at least 40 weight percent of the

Art Unit: 1771

web. It is noted that the bulking fibers can be formed from polyesters and polyolefins. (Refer to Col. 4, lines 31-41) It is the Examiner's interpretation that in such mixture having for example, 40 weight percent of the melt-blown fibers, these form less than half of the fibers in the material and could be interpreted as reading on the present claims. Further, it is noted that SWAN et al. also teaches an embodiment in which the insulation web comprises very fine denier staple fibers, binder fibers and static discharge fibers. (Refer to Col. 3, lines 28-35) Therefore, it is the Examiner's position that the SWAN et al. is not limited to just melt-blown fibers as implied by Applicants.

e. With regards to rejections over prior art of claims 22 and 24, it is noted that the WEINLE et al. reference (applied in previous office action), teaches the use of polyethylene terephthalate fibers as the primary fibers.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 22 and 24 are rejected under 35 U.S.C. 112, first paragraph, as containing matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase "in which the primary fibers are polymer fibers **other than polypropylene**" is new matter, because there is not expressed support for the negative limitation in the specification. *Ex Parte Grasselli*, 231 USPQ 393.

Art Unit: 1771

4. Claims 1-9, 11, 15-18 and 20-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claims 21, 15 and 23 claim "primary fibers substantially free of melt-blown fibers", this is rejected herein as being new matter.

5. Claims 1-9, 11, 15-18 and 20-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification fails to disclose the method used to make the primary fibers and fails to provide guidance on what are primary fibers "substantially free of melt-blown fibers".6.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. Claims 1-9, 11, 15-18 and 20-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "substantially free" lack definitiveness because when the term is read in light of the specification, one skilled in the art cannot determine the scope of the claimed invention in term of a specified percentage value. The specification fails to provide support as to what is meant by "substantially free". For examining purposes, the Examiner interprets such term as including melt-blown fibers since the term does not preclude the inclusion of these.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-9, 15-18, 21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by SWAN et al. (US 5,773,375) further evidenced by CAREY et al. and EP 0538047 A1 as stated in previous action.

SWAN et al. discloses an acoustical insulation web laminate designed for use in a motorized vehicle that comprises: a) a nonwoven acoustical insulation web 15 comprising thermoplastic melt-blown micro fibers, which is equated to the present “blanket” of fibers, and b) a second layer, which is equated to the present facing material, laminated to the acoustical insulation web to form the laminate, wherein portions of the acoustical insulation web and the second layer can be thermally consolidated to form reduced thickness areas which are of a thin gauge relative to other portions of the laminate. (Column 3, lines 36-45) The term “substantially free of melt-blown fibers” limitation is interpreted by the Examiner as being primary fibers that include melt-blown fibers since the term does not preclude having melt-blown fibers. It is noted that the SWAN et al. reference teaches forming the web preferably from a mixture of polypropylene melt-blown micro-fibers and crimped bulking fibers in which the meltblown form at least 40 weight percent of the web. It is noted that the bulking fibers can be formed from polyesters and polyolefins. (Refer to Col. 4, lines 31-41) It is the Examiner’s interpretation that in such mixture having for example, 40 weight percent of the melt-blown

Art Unit: 1771

fibers, these form less than half of the fibers in the material and could be interpreted as reading on the present claims. Further, it is noted that SWAN et al. also teaches an embodiment in which the insulation web comprises very fine denier staple fibers, binder fibers and static discharge fibers. (Refer to Col. 3, lines 28-35) Therefore, it is the Examiner's position that the SWAN et al. is not limited to just melt-blown fibers.

The reference also teaches that the lamination of film 14 to the web 15 composite can be done using an adhesive. (Column 6, lines 29-32) SWAN et al. also teaches the use of binder fibers in the web. (Column 4, lines 31-34) Typical binder fibers include bicomponent binder fibers, which have an adhesive component, and a supporting component arranged in a coextensive side-by-side, concentric sheath-core or elliptical sheath-core configuration. The Examiner equates the adhesive component of the bicomponent binder fibers to the binder component polymer component of the present invention and the supporting component of the bicomponent binder fibers to the principal polymer component of the present invention. The melt-blown polypropylene fibers of SWAN et al. are equated to the primary fibers of the present invention. (Column 4, lines 31-56)

The reference further teaches that the thickness of the acoustical insulation web is in the range of about 0.5 cm to about 15 cm, preferably is at least about 2 cm, more preferably at least about 7 cm. (Column 5, lines 23-25) On Figure 4, the reference shows the laminate including a water barrier layer such as a planar thermoplastic film 14 formed of a relatively thin thermoplastic material such as polypropylene. (Column 5, lines 63-67 thru Column 6, lines 1-2). The thickness of the film 14 is in the range of between about 20 microns to about 250 microns. (Column 6, lines 6-9). The reference further teaches that the laminate 10 is typically pressure

Art Unit: 1771

molded in a heated die to form reduced thickness areas 17 along its outer periphery 16, of approximately 508 microns (0.0508 cm) in thickness. The reduced thickness areas 17 promote the integrity of the laminate 10 in those areas and permit the laminate 10 to be easily handled by vehicle manufacturers during assembly operations. (Column 6, lines 35-47) The reduced thickness areas 17 of the SWAN et al. reference are equated to the presently claimed densified perimeter flange.

With regards to claim 4, refer to the exemplary values presented by the Examiner in section 2 of the present office action, which show that the SWAN reference teaches the use of reduced thickness areas (“flanges”) with a thickness less than about 15 percent of the thickness of the web (“blanket”).

With regards to claims 6-7 and 16-17, SWAN et al. further teaches that the laminate 10 can include an optional scrim layer secured to the web opposite the film. The reference teaches that the optional scrim layer increases the integrity of the laminate. The reference further teaches that a second optional scrim layer can be secured between the film and the web. (Column 6, lines 14-34) Therefore, when the second optional scrim layer is secured between the film and the web, this embodiment will provide the claimed facing material comprising a scrim and a film.

With regards to claims 8 and 18, it is noted that SWAN et al. is silent with respect to the claimed static coefficients of friction. However, it is reasonable to presume that the claimed static coefficient of friction is inherent to the invention SWAN et al. Support for said presumption is found in the use of the same starting materials (i.e. includes meltable binder fibers in addition to melt-blown fibers in the acoustical web and a liquid barrier thermoplastic film), like processes of making the articles (i.e., pressure molding), and the production of similar

Art Unit: 1771

end-products (i.e., acoustical insulation, etc...). The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594.

With regards to the binder component with a softening point lower than the softening of the principal component, it is noted that SWAN et al. teaches the use of a binder fiber with a sheath-core structure having a core of crystalline polyethylene terephthalate surrounded by a sheath of an adhesive polymer formed from isophthalate and terephthalate esters. (Column 4, lines 53-56) It is well known that crystalline polymers have a higher melting point than adhesive components in a bicomponent fiber. By having a difference in melting point (or softening point) this type of bicomponent fibers can be used as binder or bonding fibers, therefore the difference in softening point is inherent to the bicomponent binder fibers taught by SWAN et al. This is further evidenced by CAREY, Jr. et al. (US 4,837,067) cited by the SWAN et al. on Column 4, lines 49-51. CAREY, Jr. et al. explicitly says that the adhesive component of thermally bonding fibers must be thermally activatable (i.e. meltable) at a temperature below the melt temperature of the structural fibers of a batt. CAREY, Jr. et al. also teaches the use of bicomponent bonding fibers with structures such as a sheath-core. (Column 4, lines 27-42) It is the Examiner's position that SWAN et al. does provide the structure claimed herein and the application of a heating step is implied with the use of this type of fibers as binding fibers in a nonwoven web. The Examiner further provides the EP 0538047 A1 reference as evidence to further support this position. The EP 0538047 A1 reference is directed to nonwoven material containing bicomponent synthetic fibers having a thermoplastic component with a lower softening point component, such as a sheath-core bicomponent fiber and teaches exposing the fibers to a bonding temperature sufficiently high to soften the lower softening point component of the

Art Unit: 1771

bicomponent fibers and to obtain a high-loft nonwoven material through inter-fiber contact points. (Abstract

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 11, 20, **22** and **24** are rejected under 35 U.S.C. 103(a) as being unpatentable over SWAN et al. (US 5,773,375) as applied to claims 1-9 and 15-18 above, and further in view of WEINLE et al. (US 4,840,832).

SWAN et al. teaches the use of bulking fibers formed from polyester in the web, but fails to teach that the polyester fibers are polyethylene terephthalate (PET) fibers and also fails to teach the use of PET in the core and sheath of the bicomponent binder fibers.

WEINLE et al.'s invention is directed to an automobile headliner formed from a batt of polymeric fibers compressed and molded that imparts acoustical and thermal insulation. (Column 1, lines 5-14) The headliner is formed from a batt of polymeric fibers and the polymeric fibers preferably include potentially adhesive binder fibers. (Column 2, lines 9-10) The reference teaches the use of bicomponent fibers having a relatively low melting polymer binder component and a higher melting polymer strength component. (Column 2, lines 15-17) The reference teaches a sheath-core bicomponent construction wherein the core is formed of a relatively high melting polyethylene terephthalate polymer (PET) and the sheath comprises a PET co-polymer having a much lower melting temperature. (Column 4, lines 23-28) The

Art Unit: 1771

polymer fibers, which comprise the batt, are formed of a thermoplastic polymer, such as polyethylene terephthalate (PET). (Column 4 lines 6-7)

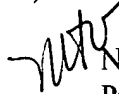
Since both, SWAN et al. and WEINLE et al. are directed to acoustical insulation for vehicles, the purpose disclosed by WEINLE et al. would have been recognized in the pertinent art of SWAN et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the acoustical insulation of SWAN et al. and provide it with polyethylene terephthalate fibers to form the batt (or web) and bicomponent fibers with a core of PET and a sheath of PET with the motivation of providing an insulation material with a molded batt of fibers that remains highly deformable and resilient as disclosed by WEINLE et al. (Column 3, lines 56-68).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-5:00 pm and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Norca L. Torres-Velazquez
Primary Examiner
Art Unit 1771

August 31, 2005